REMARKS

The Final Official Action dated December 24, 2002, and the Advisory Action dated April 4, 2003, have been received and their contents carefully noted. Filed concurrently herewith is a *Request for a One Month Extension of Time* which extends the shortened statutory period for response to April 24, 2003. Accordingly, the Applicant respectfully submits that this response is being timely filed.

Claims 14-16, 18, 19, 31-36, 39, 40, 43, 44 and 47-57 were pending in the present application prior to the above amendment. Claims 47 and 51 have been canceled, and claims 14-16, 18, 19, 31-36, 39, 40, 43, 44, 48-50 and 52-57 have been amended to better recite the features of the present invention. Accordingly, claims 14-16, 18, 19, 31-36, 39, 40, 43, 44, 48-50 and 52-57 are now pending in the present application, of which claims 14-16, 18 and 19 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on October 5, 1999, November 23, 1999, April 2, 2001 and July 15, 2002.

The Official Action rejects claims 14-16, 18, 19, 31-36, 39, 40, 43, 44 and 53-57 as obvious based on the combination of JP 09-312260 to Hamatani et al. and U.S. Patent No. 5,236,850 to Zhang. The Official Action also relies on U.S. Patent No. 6,077,731 to Yamazaki et al. and asserts that it is equivalent to Hamatani. The Applicant respectfully submits that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present invention, as amended.

As stated in MPEP §§ 2143-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab,* 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. Independent claims 14-16, 18 and 19 have been amended to recite a plastic substrate. A plastic substrate may be used in the present invention since the sputtering method and the laser irradiating process of the present invention do not require a high temperature. The low temperature process of the present invention is cost effective and industrially useful. In contrast, Hamatani teaches away from using a plastic substrate. Specifically, Hamatani teaches that the plastic substrate lacks heat resistance and that a glass substrate is preferred (see col. 2, lines 32-39 of U.S. Patent No. 6,077,731). Also, the claims of Hamatani are directed to a high temperature process. The prior art, whether taken alone or in combination, does not teach or suggest why it would be desirable to remove the preferably glass substrate of Hamatani, replace it with a plastic substrate, and change the high temperature process of Hamatani to a low temperature process. Since Hamatani, Zhang and Yamazaki do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained.

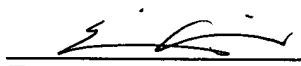
For the reasons stated above, the Official Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is in order and respectfully requested.

The Official Action rejects dependent claims 47-52 as obvious based on the combination of Hamatani, Zhang, Yamazaki and U.S. Patent No. 6,146,930 to Kobayashi et al. As noted above, claims 47 and 52 have been canceled; therefore,

dependent claims 48-50 and 52-57 remain pending. Although the Official Action asserts that Kobayashi teaches the use of plastic substrates (pp. 3-4, Paper No. 23), Kobayashi does not teach or suggest why it would be desirable to remove the preferably glass substrate of Hamatani, replace it with a plastic substrate, and change the high temperature process of Hamatani to a low temperature process. Since the prior art does not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejection of dependent claims 47-52 under 35 U.S.C. § 103(a) is in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claims 14-16, 18, 19, 31-36, 39, 40, 43, 44 48-50 and 52-57, and cancel claims 47 and 51 as follows.

14. (Amended) A method for manufacturing a semiconductor device comprising:

forming an amorphous semiconductor film through a sputtering method [on an insulating surface; and] over a plastic substrate;

crystallizing the amorphous semiconductor film to form a crystallized semiconductor film by irradiating the amorphous semiconductor film with a laser light wherein an oxide is formed on the crystallized semiconductor film by the irradiation of the laser light; and

removing the oxide from the crystallized semiconductor film,

wherein an inert gas is used as a sputtering gas in the sputtering method, [said] the inert gas being at least one selected from the group consisting of Ar, He, and Ne[, N].

15. (Amended) A method for manufacturing a semiconductor device comprising:

forming an amorphous semiconductor film through a sputtering method [on an insulating surface] over a plastic substrate;

applying a metal containing material to at least a portion of the amorphous semiconductor film, [said] the metal being capable of promoting crystallization; [and]

crystallizing the amorphous semiconductor film to form a crystallized semiconductor film by irradiating the amorphous semiconductor film with a laser light wherein an oxide is formed on the crystallized semiconductor film by the irradiation of the laser light; and

removing the oxide from the crystallized semiconductor film,

wherein an inert gas is used as a sputtering gas in the sputtering method, [said] the inert gas being at least one selected from the group consisting of Ar, He, and Ne[, N].

16. (Amended) A method for manufacturing a semiconductor device comprising:

forming an amorphous semiconductor film comprising silicon and germanium through a sputtering method [on an insulating surface] over a plastic substrate;

crystallizing the amorphous semiconductor film to form a crystallized semiconductor film by irradiating the amorphous semiconductor film with a laser light wherein an oxide is formed on the crystallized semiconductor film during the irradiation of the laser light; and

removing the oxide from the crystallized semiconductor film,

wherein an inert gas is used as a sputtering gas in the sputtering method, [said] the inert gas being at least one selected from the group consisting of Ar, He, and Ne[, N].

18. (Amended) A method for manufacturing a semiconductor device comprising:

forming a gate wiring over a plastic substrate;

forming a gate insulating film on the gate wiring;

forming an amorphous semiconductor film through a sputtering method on the gate insulating film;

crystallizing the amorphous semiconductor film to form a crystallized semiconductor film by irradiating the amorphous semiconductor film with a laser light wherein an oxide is formed on the crystallized semiconductor film during the irradiation of the laser light; and

removing the oxide from the crystallized semiconductor film,

wherein an inert gas is used as a sputtering gas in the sputtering method, [said] the inert gas being at least one selected from the group consisting of Ar, He, and Ne[, N].

19. (Amended) A method for manufacturing an electroluminescence display device comprising at least a thin film transistor, [said] the method comprising the steps of:

forming an amorphous semiconductor film through a sputtering method [on an insulating surface] over a plastic substrate;

crystallizing the amorphous semiconductor film to form a crystallized semiconductor film by irradiating the amorphous semiconductor film with a laser light wherein an oxide is formed on the crystallized semiconductor film;

removing the oxide from the crystallized semiconductor film;

forming a gate insulating film adjacent to the crystallized semiconductor film;

forming a gate electrode adjacent to the crystallized semiconductor film with the gate insulating film interposed therebetween;

introducing an impurity into the crystallized semiconductor film to form [at least] a source region[,] and a drain region of the thin film transistor;

forming [at least] an interlayer insulating film over the thin film transistor;

forming a first electrode over the interlayer insulating film, [said pixel] the first electrode being electrically connected to the drain region of the thin film transistor;

forming an EL layer adjacent to the first electrode; and

forming a second electrode adjacent to the EL layer,

wherein an inert gas is used as a sputtering gas in the sputtering method, said inert gas being at least one selected from the group consisting of Ar, He, and Ne[, N].

31. (Amended) [A] The method according to claim 14, wherein the semiconductor device is selected from the group consisting of a liquid crystal display device, an EL display device, an EC display device and an image sensor.

32. (Amended) [A] The method according to claim 14, wherein the semiconductor device is selected from the group consisting of a video camera, a digital camera, a projector, a goggle display, a navigation system for vehicles, a personal computer and a portable information terminal.

33. (Amended) [A] The method according to claim 15, wherein metal is at least one selected from a group consisting of Ni, Fe, Co, Pt, Cu and Au.

34. (Amended) [A] The method according to claim 15, wherein the metal is at least one selected from the group consisting of Ge and Pb.

35. (Amended) [A] The method according to claim 15, wherein the semiconductor device is one selected from the group consisting of a liquid crystal display device, an EL display device, an EC display device and an image sensor.

36. (Amended) [A] The method according to claim 15, wherein the semiconductor device is selected from the group consisting of a video camera, a digital camera, a projector, a goggle display, a navigation system for vehicles, a personal computer and a portable information terminal.

39. (Amended) [A] The method according to claim 16, wherein the semiconductor device is selected from the group consisting of a liquid crystal display device, an EL display device, an EC display device and an image sensor.

40. (Amended) [A] The method according to claim 16, wherein the semiconductor device is selected from the group consisting of a video camera, a digital

camera, a projector, a goggle display, a navigation system for vehicles, a personal computer and a portable information terminal.

43. (Amended) [A] The method according to claim 18, wherein the semiconductor device is selected from the group consisting of a liquid crystal display device, an EL display device, an EC display device and an image sensor.

44. (Amended) [A] The method according to claim 18, wherein the semiconductor device is selected from the group consisting of a video camera, a digital camera, a projector, a goggle display, a navigation system for vehicles, a personal computer and a portable information terminal.

48. (Amended) The method according to claim 14, wherein [said] the amorphous semiconductor film is formed on a base film over [a] the plastic substrate.

49. (Amended) The method according to claim 15, wherein [said] the amorphous semiconductor film is formed on a base film over [a] the plastic substrate.

50. (Amended) The method according to claim 16, [said] the amorphous semiconductor film is formed on a base film over [a] the plastic substrate.

52. (Amended) The method according to claim 19, wherein [said] the amorphous semiconductor film is formed on a base film over [a] the plastic substrate.

53. (Amended) The method according to claim 14, wherein [said] the laser light is irradiated with the amorphous semiconductor film exposed to the atmosphere.

54. (Amended) The method according to claim 15, wherein [said] the laser light is irradiated with the amorphous semiconductor film exposed to the atmosphere.

55. (Amended) The method according to claim 16, wherein [said] the laser light is irradiated with the amorphous semiconductor film exposed to the atmosphere.

56. (Amended) The method according to claim 18, wherein [said] the laser light is irradiated with the amorphous semiconductor film exposed to the atmosphere.

57. (Amended) The method according to claim 19, wherein [said] the laser light is irradiated with the amorphous semiconductor film exposed to the atmosphere.